

#### 4. 8. Comparison of Vowel qualities across Dialects

The analysis of variance between the dialects indicates that the differences in the mean formant frequencies between the speakers within each are too small to be considered significant as compared to the differences across each dialect. This holds for most of the vowels by individual speakers, however, the formant plot of the mean values of the individual dialects reveals a few clear distinctions. Figure 4.6.1. is the formant plot of the mean values of each vowel across all the five dialects. It is observed that the front high vowel [i] by Anɔ and Kpando is quite higher than those of Avenor, Ho and Tɔɔ. Tɔɔ on the other hand produced it more fronted than the others (See figure 4.8.1). What apparent differences do exist between the dialects seem to center on the mid front vowels [e] and [ɛ] and the supposed central vowel [ə]. In other words, the major difference in vowel quality between these dialects is based on the mid front vowels [e] and [ɛ]. Kpando [e] is quite higher as compared to the other dialects.

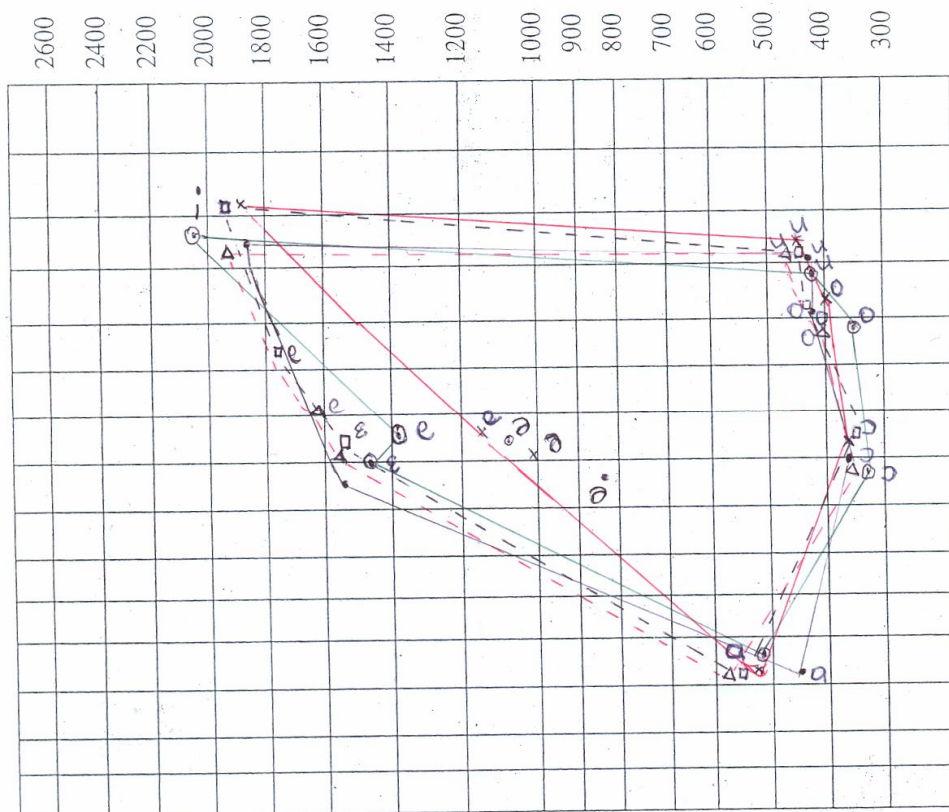


Figure 4.8.1 Combined formant plot of oral vowels of Anɔ, Avenor, Ho, Kpando and Tɔɔ. Anɔ = red line, Avenor= black line, Ho= red broken line, Kpando= black broken line and Tɔɔ =green line.

Even though Ho [e] is located lower than that of Kpando, it is still higher than those of Añɔ, Avenor and Tɔɲu. The observation is that the two Vedome dialects (Ho and Kpando) have this vowel located higher than the southern dialects (Añɔ, Avenor and Tɔɲu). Añɔ [e] is retracted from the front toward the center just a little front to [ə]. Avenor [e] is very low and open perhaps because the location of their [ɛ] between [i] and [e]. This situation holds for Añɔ too. Tɔɲu [e] is open and shifted to the center as compared to Avenor, Ho and Kpando. Kando once again has a less open [ɛ] as compared to Ho and Tɔɲu. Ho has [ɛ] located just below that of Kpando. There is however, no significant difference between [ɛ] and [ə] for Kpando speakers and [e] and [ə] for Ho speakers respectively. That is to say that Kpando speakers have [ə] located at the same place as [ɛ] and Ho speakers have it at the same place as [e]. It seems, based on this present data that, wherever [ə] appears in orthography, Ho uses [e] and Kpando uses [ɛ]. Añɔ and Avenor dialects locate [ɛ] between [i] and [e].

Tɔɲu speakers have [ə] high and shifted from the center to the front whiles that of Avenor is low and central. As noted in section 4.7, Avenor speakers have a significantly more back production of [a] than Añɔ, Ho, Kpando and Tɔɲu speakers. Añɔ has a higher [u] and [o] production and Tɔɲu has [u] a little lower and [o] more backward as compared to the others. Añɔ and Kpando have a higher [ɔ] with that of Tɔɲu a little farther back. The mean formant values for each vowel across all the dialects are presented in the table below.

Table 4.8.1 Mean formant values (in Hz) of each oral vowel across all dialects

Dialects	i		e		ɛ		ə		a		u		o		ɔ	
	F1	F2 <sup>1</sup>	F1	F2 <sup>1</sup>	F1	F2 <sup>1</sup>	F1	F2 <sup>1</sup>	F1	F2 <sup>1</sup>	F1	F2 <sup>1</sup>	F1	F2 <sup>1</sup>	F1	F2 <sup>1</sup>
Añɔ	288	1908	523	4523	395	1707	428	841	791	653	347	453	379	389	533	362
Avenor	317	1893	574	1132	496	1411	528	1022	795	556	343	443	395	420	550	362
Ho	321	1968	498	1513	536	1573	530	1132	793	699	340	489	406	404	562	369
Kpando	299	1959	416	1602	544	1525	547	1500	773	631	343	463	393	423	522	355
Tɔɲu	317	2018	519	1396	527	1560	561	1561	796	659	363	439	407	362	565	347

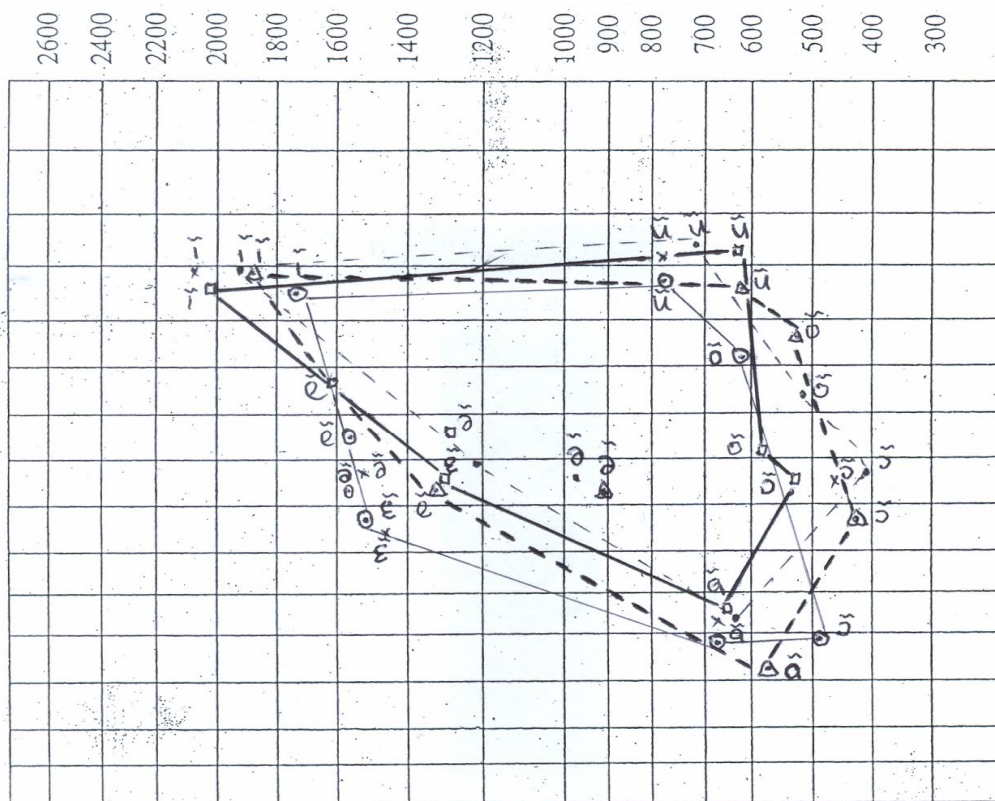


Figure 4.8.2 Combined formant plot of nasal vowels of Anɔ, Avenor, Ho, Kpando and Tɔɔ. Anɔ —, Avenor-----, Kpando **————** Ho x Tɔɔ -----

Figure 4.8.2 is the formant plot of the mean values of the nasalized vowels. Anɔ and Ho display a higher [ɪ̃] than Avenor, Kpando and Tɔɔ. Kpando has more fronted [ɪ̃] and Tɔɔ has it a little retracted. Kpando and Anɔ have [ɛ̃] located within the same region of the oral ones while Avenor produced it at the center considering the distance between [ɪ̃] and [ʊ̃]. For the back vowels, Anɔ, Ho and Kpando have a higher [ʊ̃] Avenor and Tɔɔ. Those of Tɔɔ and Ho are more retracted toward the center. Generally, Tɔɔ and Kpando have their nasalized back vowels shifted more from the periphery toward the center than

the other dialects. Tɔŋu has [ɔ̃] produced very low and open just like [ã]. The following tables present the mean formant values of the oral and the nasalized vowels across dialects.